

Date: Wednesday, 9/26/2007 7:56:01 AM  
User: Kim Johnston

## Process Sheet

SPUT

Customer : CU-DAR001 Dart Helicopters Services

Drawing Name : SADDLE BILLET

Job Number : 34872 2

Estimate Number : 10032

P.O. Number :

This Issue : 9/26/2007 S.O. No. :

Prsht Rev. : NC

First Issue : 11 Type : MACHINED PARTS

Previous Run : 34643

Part Number : D6101001

Drawing Number : D6101 REV A

Project Number : N/A

Drawing Revision : A

Material :

Due Date : 10/26/2007

Qty: 250  
300 Um: EachWritten By : 9/26/07Checked & Approved By : 9/26/07

Comment : Est. 01.05.04 New Issue EC

Additional Product

Job Number:

Seq. #:

Machine Or Operation:

Description :

10

PG

PURCHASING

Comment: PURCHASING

Issue P/O: 4685

a) Description: Aluminum billet

b) 6.00" x 6.250" x 2.00" thick

c) Tolerance on length are +0.025"/-0.000" AE +/-0.008"

d) Grain direction along 6.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

C 207109124

(300)

20

D6101001P

7075-T7351 2X6X6.25

Comment: Qty.: 1.0000 Each(s)/Unit Total: 300.0000 Each(s)  
7075-T7351 2X6X6.25

30

PACKAGING 1

PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

40

QC6

DIMENSIONAL CHECK

Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D



# Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE BILLET

Job Number: 34872

Part Number: D6101001

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

*8/10/20* (50)

6.0

QC21

FINAL INSPECTION W/O RELEASE



*08/10/27*

Comment: FINAL INSPECTION W/O RELEASE

Job Completion



*MF 08-10-20*

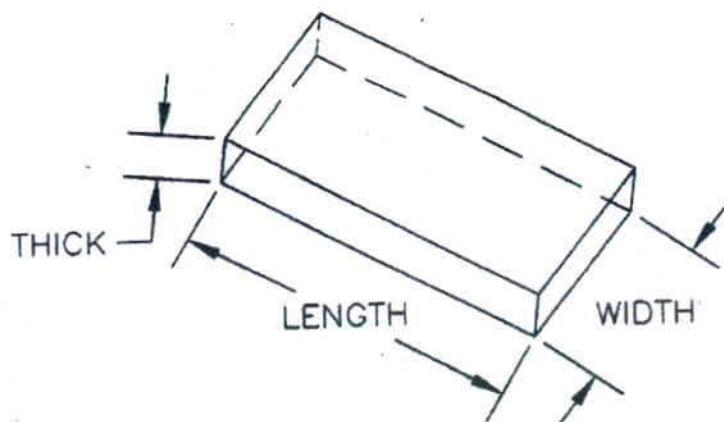




**DART**

DESIGN CP	DRAWN BY CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED [Signature]	DRAWING NO. D6101	Rev. A SHEET 1 OF 1
DATE 01.03.30		TITLE SADDLE BILLET, 7075	SCALE NTS
A	01.03.30	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

**RELEASED**  
01.04.23 [Signature]

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH, WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length

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SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 34872





REQUISITION CLIENT-CUSTOMER REQUISITION NO.

NO. COM. CLIENT-CUSTOMER ORDER NO.

4685

71037 200 50

MANITOULIP

ETEUR-PURCHASING AGENT

INDA LACELLE

TELEPHONE

613 622-3336

H/C TAXE

9 0

NO. COM. ORD

1

REGION LIVRAISON-DEL. ZONE

C/C

F.A.B.-F.O.B.

PREPAID

BILL

NO. FEVILLE/EMBALLAGE-B/L NUMBER

ROUTE

01-NL-10/13

30-NL-10/16

31-NL-10/21

IE A-SHIP TO:

VENDU A-SOLD TO:

DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

INSTRUCTIONS LIVRAISON-DELIVERY

NO-J85222

INSTRUCTIONS LIVRAISON (CONT.)-DELIVERY (CONT'D.)

INFORMATION CREDIT-CREDIT INFORMATION

INSTRUCTIONS LIVRAISON (CONT.)-DELIVERY (CONT'D.)

DESCRIPTION - ITEM 1

2.0000 PLATE 7075-T7351 ALUM 6.25" X 6.00"

BLACK W/RED STRIPE

CERTIFICATE OF CONFORMANCE

A.M. Castle & Co. certifies that the material(s) supplied under this document will meet and conform to the specifications of the product(s) described hereon.

A.M. Castle & Co. (Canada) Inc.

WEIGHT FOR SHIPPING PURPOSES ONLY. SEE INVOICES FOR ACCURATE BILLING WEIGHT. PLEASE SIGN AND DATE DRIVER'S COPY FOR RECEIPT OF MATERIAL AND, IF CHECKED, TEST REPORTS.

INSTRUCTIONS

TOL: +.030/- .000

THICKNESS TOL.: +.030/- .000

GRAIN TO RUN ALONG 6.00"

PRIOR DIST/ORD: 01 673055

COULÉE INFO-HEAT INFO

QTE-QTY

440545 A2 (4)

441611 A1 (9)

INSTRUCTIONS (CONT'D.)

50x6.25x6.00

QTE/UNITE COM.-ORDERED

50 PCS

PCS

POIDS COM.-WT. ORDERED

379

BALLOTS-BUNDLES

1

PCS/PO EXP. SHP.

50

POIDS EXP.-WT. SHIPPED

379

FORME-SHAPE

I.A.C.

6857

ENT.-WHS

DESCRIPTION - ITEM 2

2.0000 PLATE 7075-T7351 ALUM 6.25" X 7.875"

BLACK W/RED STRIPE

TERMS AND CONDITIONS OF SALE

SEE DISCLAIMERS AND LIMITATIONS ON THE REVERSE SIDE

INSTRUCTIONS

TOL: +.030/- .000

THICKNESS TOL.: +.030/- .000

GRAIN TO RUN ALONG 7.875"

PRIOR DIST/ORD: 01 673055

COULÉE INFO-HEAT INFO

QTE-QTY

440545 A2

INSTRUCTIONS (CONT'D.)

50x6.25x7.875

QTE/UNITE COM.-ORDERED

50 PCS

PCS

POIDS COM.-WT. ORDERED

498

BALLOTS-BUNDLES

1

PCS/PO EXP. SHP.

50

POIDS EXP.-WT. SHIPPED

600/498

FORME-SHAPE

I.A.C.

6857

ENT.-WHS

DESCRIPTION - ITEM 3

ALL EXCEPTIONS FOR SHORTAGE OR DAMAGE MUST BE NOTED ON THE DRIVER COPY & CUSTOMER COPY OF THE DELIVERY RECEIPTS & SIGNED BY THE DRIVER & CUSTOMER. COPY OF SUCH RECEIPT PROPERLY NOTED MUST BE SUBMITTED WITHIN 10 DAYS WHEN CREDIT IS REQUESTED.

INSTRUCTIONS

2 BOXES

COULÉE INFO-HEAT INFO

QTE-QTY

INSTRUCTIONS (CONT'D.)

QTE/UNITE COM.-ORDERED

PCS

PCS

POIDS COM.-WT. ORDERED

POIDS EXP.-WT. SHIPPED

FORME-SHAPE

I.A.C.

ENT.-WHS

NOM (LETTRE MOULEE)-NAME (PRINT ONLY)

RECU PAR-RECEIVED BY

DATE RECU-DATE RECEIVED

FEVILLE D'EMBALLAGE - PACKING SLIP





<b>SHIP TO:</b> A M CASTLE & CO 14001 ORANGE AVE P.O. BOX 1402 PARAMOUNT, CA 90723
<b>SOLD TO:</b> AM CASTLE & CO- SOLD TO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131

**KAISER ALUMINUM**  
 Trentwood Works - Spokane, WA 99215  
 Phone: (800) 367-2586

# **CERTIFIED TEST REPORT**

**Serial Number**  
 4134429

<b>CUSTOMER PO NUMBER:</b> 02-30434		<b>WORK PACKAGE:</b>		<b>CUSTOMER PART NUMBER:</b> 6857 A97075-60		<b>SHIP RUN/LOAD ID:</b> 101320/23		<b>GOV'T CONTRACT NUMBER:</b>	
<b>KAISER ORDER NO:</b> 1068979	<b>LINE ITEM:</b> 1	<b>SHIP DATE:</b> 6-JUL-2008	<b>ALLOY:</b> 7075	<b>CLAD:</b> BARE	<b>TEMPER:</b> T7351	<b>PRODUCT DESCRIPTION:</b> MILL FINISH PLATE			
<b>WEIGHT SHIPPED:</b> 8620 LB	<b>QUANTITY:</b> 6 PCS EST.	<b>B/L NUMBER:</b> 2018511	<b>GAUGE:</b> 2.0000 IN	<b>WIDTH:</b> 48.500 IN	<b>LENGTH:</b> 144.500 IN				

## **Certified Specifications**

AMS 4078/RevG  
 ASTM B 209/Rev07  
 BSS 7055/RevA  
 DPS 4.713/RevAH  
 GSS16100/RevG

AMS-QQ-A-250/12  
 ASTM B 594/Rev06  
 CMMP 025/RevR  
 EAC MS1011/RevE  
 MMS 159/RevN

AMS-STD-2154  
 BAC 5439/RevH  
 CSTI 006/RevC  
 GAMP5 9101/RevB  
 PS 21211/RevK

**Test Code: 4297**

## **Test Results**

Lot: 424354A9 Cast 169

Drop 38

Ingot 4

*S*  
 09/10/24

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	74.4 : 74.5 (513 : 514)	62.9 : 63.2 (434 : 436)	11.8 : 12.1

(ASTM E1004)

Conductivity %IACS :	40.7 Min	41.0 Max
(MS/M) :	23.6 Min	23.8 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.08	0.16	1.5	0.02	2.5	0.20	5.7	0.03	0.01	0.01	TOT . 0.05



**KAISER  
ALUMINUM**Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586**CERTIFIED TEST REPORT**Serial Number  
4134429

Lot: 440545A2 Cast 170

Drop 22

Ingot 2

(ASTM E8/B557)

Tensile: Temper  
T7351Dir / # Tests  
LT / 2 (Min:Max)Ultimate KSI (MPA)  
73.9 : 74.2  
(510 : 512)Yield KSI (MPA)  
62.4 : 62.6  
(430 : 432)Elongation %  
11.7 : 11.8

(ASTM E1004)

Conductivity %IACS :  
(MS/M) :40.6 Min  
23.5 Min40.7 Max  
23.6 Max

(ASTM E1251)

Chemistry:  
ActualSI  
0.08FE  
0.16CU  
1.4MN  
0.05MG  
2.5CR  
0.19ZN  
5.8TI  
0.03V  
0.01ZR  
0.01

TOT

OTHER  
0.05**ALLOY LIMITS**Chemistry:  
7075 MIN  
MAXSI  
0.00  
0.40FE  
0.00  
0.50CU  
1.2  
2.0MN  
0.00  
0.30MG  
2.1  
2.9CR  
0.18  
0.28ZN  
5.1  
6.1TI  
0.00  
0.20V  
0.00  
0.05ZR  
0.00  
0.05OTHER  
EACH  
TOTMAX  
0.05  
0.15

Aluminum Remainder

**TEST NOTES**

Metal represented by this test report was immersion  
ultrasonically tested from one side and meets the Class A  
and Class B requirements of all specifications referenced  
on this test report.

**CASTLE METALS-LA**DATE REC'D 07/14/08REC'D FROM KAISERAPPROVED BY [Signature]IAC 6857**CERTIFICATION**

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A , AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR***Bill Poy*





## SHIP TO:

A M CASTLE & CO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4134371

## SOLD TO:

AM CASTLE & CO- SOLD TO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

CUSTOMER PO NUMBER: 01-49573		WORK PACKAGE:		CUSTOMER PART NUMBER: 6857 A97075-60			SHIP RUN/LOAD ID: 101320/13		GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1069099		LINE ITEM: 1	SHIP DATE: 5-JUL-2008		ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: MILL FINISH PLATE		
WEIGHT SHIPPED: 8662 LB		QUANTITY: 6 PCS EST.		B/L NUMBER: 2018501		GAUGE: 2.0000 IN		WIDTH: 48.500 IN		LENGTH: 144.500 IN

## Certified Specifications

AMS 4078/RevG  
ASTM B 209/Rev07  
BSS 7055/RevA  
DPS 4.713/RevAH  
GSS16100/RevG

AMS-QQ-A-250/12  
ASTM B 594/Rev06  
CMMP 025/RevR  
EAC MS1011/RevE  
MMS 159/RevN

AMS-STD-2154  
BAC 5439/RevH  
CSTI 006/RevC  
GAMPS 9101/RevB  
PS 21211/RevK

Test Code: 4297

## Test Results

Lot: 440545A2 Cast 170

Drop 22

Ingot 2

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.9 : 74.2 (510 : 512)	62.4 : 62.6 (430 : 432)	11.7 : 11.8

(ASTM E1004)

Conductivity %IACS :	40.6 Min	40.7 Max
(MS/M) :	23.5 Min	23.6 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.08	0.16	1.4	0.05	2.5	0.19	5.8	0.03	0.01	0.01	TOT 0.05

CASTLE METALS CORP.

DATE RCVD

IAC 6857

APPROVED BY





**KAISER  
ALUMINUM**Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586**CERTIFIED TEST REPORT**Serial Number  
4134371

Lot: 441611A1 Cast 175

Drop 20

Ingot 1

(ASTM E8/B557)

Tensile: Temper  
T7351Dir / # Tests  
LT / 2 (Min:Max)Ultimate KSI (MPA)  
73.9 : 74.2  
(510 : 512)Yield KSI (MPA)  
62.8 : 62.9  
(433 : 434)Elongation %  
11.9 : 12.0

(ASTM E1004)

Conductivity %IACS : 41.0 Min  
(MS/M) : 23.8 Min41.3 Max  
24.0 Max

(ASTM E1251)

Chemistry:  
Actual

SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
0.10	0.20	1.5	0.02	2.5	0.19	5.6	0.03	0.01	0.01	TOT 0.05

**ALLOY LIMITS**Chemistry:  
7075 MIN  
MAX

SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

**TEST NOTES**

Metal represented by this test report was immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.

**CERTIFICATION**

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. 150-9001:2000 CERTIFIED

BILL POYNOR, LABORATORIES SUPERVISOR



